REMARKS

The present amendment is in response to the second Office Action, dated June 14, 2002, where the Examiner has rejected claims 21-44 and 46-53 pending in the application. It is noted that applicant has amended claims 21, 34, 38, 46 only to remove the limitation that the silent description coding mode be carried out independent of the "immediately preceding segment." Reconsideration and allowance of pending claims 21-44 and 46-53 in view of the amendments and the following remarks are respectfully requested.

A. Rejection of Claims 21-44 and 46-53 Under 35 USC § 103(a)

The Examiner has rejected claims 21-44 and 46-53 under 35 USC § 103(a) as being unpatentable over Rapeli (USPN 6,182,032) ("Rapeli '032"). The Examiner has cited Delargy (USPN 6,029,127) ("Delargy '127) only with respect to claim 38.

Pending claims 21-44 and 46-53 are directed to a device and method that provides silence description coding of a speech signal segment independent of the speech coding mode applied to other speech signal segments.

Rapeli '032 is directed at a communication system which provides switching means for switching over from acoustic voice paths to at least one non-acoustic path (col. 2:41-52 and FIGs. 1-3). Rapeli '032 nowhere discloses, teaches or suggests implementing or providing silence description coding of a speech signal segment independent of the speech coding mode applied to other speech signal segments. In fact, Rapeli '032 does not discuss "dependency" or "independency" at all, and is completely silent on the subject matter.

The Examiner cites two (2) passages of Rapeli '032, which both fail to support a *prima facie* case for obviousness under 35 USC § 103(a) and as set forth in MPEP 2142. First, the Examiner cites column 4, lines 39-48, as describing the coding scheme in Rapeli '032 as being a

plurality of coding modes for speech (page 4 of the Detailed Action). The Examiner then cites column 7, line 27, as describing a coding scheme for silence (page 4 of the Detailed Action). **The Examiner then states that "by not specifying a dependency between processing speech and non-speech segments, Rapeli makes it clear to a person of ordinary skill in the art of speech signal processing that the selection of the silent mode would be made independent of any previous speech coding mode" (page 4-5 of the Detailed Action) (emphasis added).**

First referring to column 7 line 27, Rapeli '032 uses the phrase "silent pauses" not to refer to a coding mode, but rather the detection of "silent pauses" in order to determine whether to remain in the "one way" communication or to switch back to "two way" communication (col. 7:17-29). Even, *assuming arguendo* that Rapeli '032 refers to a silence coding mode, Rapeli '032 still fails to disclose, teach or suggest implementing a silence coding mode independent of the coding mode applied to previous speech signals.

More importantly, applicant respectfully submits that the fact that, as stated by the Examiner, Rapeli '032 "does not specify[] a dependency between processing speech and non-speech segments" renders Rapeli '032 insufficient to support a *prima facie* case of obviousness.

In In re Gordon, 733 F.2d 900, 902 (Fed. Cir. 1984), the Federal Circuit has set forth an obviousness determination rule, which clearly rejects the modification suggested by the Examiner (see also In re Fitch, 972 F.2d 1260 (Fed. Cir. 1992)):

> The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. (emphasis added.)

Not only Rapeli '032 does not suggest the desirability of selecting the silent mode independent of any previous speech coding mode, but Rapeli '032 is completely silent on the entire subject matter relating to the above-limitation. In fact, the Examiner relies on the fact that

Rapeli '032 does "**not specify[] a dependency**", i.e. lack of teaching by Rapeli '032, to support the obviousness rejection of claim 21.

The Federal Circuit has stated that even for a modification that can be characterized as "simple", the prior art must still suggest the desirability of such modification. In In re Chu, 66 F.3d 292, 298 (Fed. Cir. 1995), the Federal Circuit reaffirmed the rule annunciated in In re Gordon and provided the following guidance:

> In a proper obviousness determination, "whether the changes from the prior art are 'minor', ... the changes must be evaluated in terms of the whole invention, including whether the prior art provides any teaching or suggestion to one of ordinary skill in the art to make the changes that would produce the patentee's ... device." (citations omitted.) This includes what could be characterized as simple changes, as in *In re Gordon, 733 F.2d 900, 902, 221 U.S.P.Q. (BNA) 1125, 1127 (Fed. Cir. 1984)* (**Although a prior art device could have been turned upside down, that did not make the modification obvious unless the prior art fairly suggested the desirability of turning the device upside down**). (emphasis added.)

Applicant respectfully submits that by "**not specifying dependency**", as stated by the Examiner, Rapeli '032 falls far short of suggesting the desirability of selecting the silent mode independent of any previous speech coding mode. As stated above, Rapeli '032 is completely silent on the entire subject matter relating to dependency or independence, and if any conclusion or suggestion is to be drawn by the Examiner from Rapeil '032, it should be that Rapeli '032 operates according to other prior art in existence at the time of Rapeli '032, i.e. selection of the silent mode in Rapeli '032 is dependent upon previous speech coding mode, as opposed to what has been taught by the present invention.

Accordingly, it is respectfully submitted rejection of independent claim 21 and its dependent claims 22-33 have been traversed and should now be allowed.

The Examiner has rejected claim 34 for reasons similar to claim 21, applicant respectfully submits that claim 34 and its dependent claims 35-37 should be allowed for at least the reasons stated in conjunction with claim 21.

The Examiner has rejected claim 38 for reasons similar to claim 21, applicant respectfully submits that claim 38 and its dependent claims 39-44 should be allowed for at least the same reasons stated in conjunction with claim 21.

The Examiner has rejected claim 46 for reasons similar to claim 21, applicant respectfully submits that claim 46 and its dependent claims 47-53 should be allowed for at least the same reasons stated in conjunction with claim 21.

B. Conclusion

For all the foregoing reasons, an early allowance and issuance of claims 21-44 and 46-53 pending in the present application is respectfully requested. It is submitted that no new matter has been added. The Examiner is invited to contact the undersigned for any questions.

Respectfully Submitted;
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MARKED-UP VERSION OF THE AMENDED CLAIMS

21. (Twice Amended) A communication device having a multi-rate speech coder that performs silence description coding of speech signal having varying characteristics comprising:

a voice activity detection circuit that is capable of identifying a substantially speech-like characteristic of a segment of the speech signal; and

a processing circuit communicatively coupled to the voice activity detection circuit, the processing circuit being capable of selectively applying one of a plurality of coding modes to the segment of the speech signal,

wherein the plurality of coding modes comprises a plurality of speech coding modes and a silence description coding mode,

wherein the processing circuit selects the silence description coding mode upon the identification of the absence of a substantially speech-like characteristic of the segment of the speech signal independent of the speech coding mode applied ~~immediately~~ before the segment.

34. (Twice Amended) A method of coding a speech signal, comprising:

coding a first segment of the speech signal using a speech coding mode selected from a plurality of speech coding modes; and

coding a second segment of the speech signal using a silence description coding mode independent of the speech coding mode used to code the first segment of the speech signal ~~immediately before the second segment~~.

38. (Twice Amended) A communication system, comprising:

a coder;

a decoder; and

a communication network selectively interconnecting the coder and the decoder;

wherein the coder comprises a voice activity detector, a processor coupled with the voice activity detector, and a transmitter coupled with the processor,

wherein the voice activity detector receives first and second segments of a speech signal and identifies a substantially speech-like characteristic of the first segments and an absence of a substantially speech-like characteristic of the second segment of the speech signal,

wherein the processor selectively applies one of a plurality of coding modes to the first and second segments, the plurality of coding modes comprises a plurality of speech coding modes and a silence coding mode,

wherein the processor applies the silence description coding mode to the second segment of the speech signal independent of the speech coding mode applied to the first segments of the speech signal ~~immediately before the second segment~~.

46. (Twice Amended) A multi-rate codec that encodes a first speech signal having a first plurality of segments and receives a second speech signal having a plurality of encoded segments, comprising:

a multi-rate coder, wherein the multi-rate coder is capable of coding each of the segments of the first speech signal via one of a plurality of speech coding modes and a silence description coding mode, wherein the multi-rate coder selects the silence description mode when an absence of a substantially speech-like characteristic is detected in a segment independent of the speech coding mode applied to an ~~immediately~~ earlier segment; and

a multi-rate decoder operatively coupled to the multi-rate coder, wherein the multi-rate decoder is capable of receiving and decoding the second plurality of encoded segments, wherein the multi-rate decoder selectively adds comfort noise to the decoded segment.